

REMARKS

By the present amendment, claims 1, 6, 10, 16, 20, 26, 30, 36, 40, 44-46, 77, 81, 82, 84, 87 and 90 have been amended. Claims 55, 57, 58, 60, 64-68, 73, 85, 86 and 92 have been canceled. Claims 50-54, 56, 59, 61-63, 69-72, 74-76, 89 and 91 were previously canceled.

Claims 1-49, 77-84, 87, 88 and 90 remain pending in the application. Reconsideration and allowance of all of the claims is respectfully requested in view of the following remarks.

In regard to Rejection of Claims 40-43, 45-49, 77-82 and 88 Under 35 USC § 103(a)

The Examiner has rejected claims 40-43, 45-49, 77-82 and 88 under 35 U.S.C. § 103(a), as being unpatentable over Yasui, U.S. Patent No. 4,848,503, in view of "The Seated Man (Homo Sedens) The seated work position Theory and Practice" by A.C. Mandal. The Applicants believe that this rejection has been addressed and overcome by the present amendment.

In response to the Examiner's remarks, claims 40, 45, 46, 77, 81 and 82 have been amended.

The Examiner's attention is directed to the following feature of claims 40, 45, 46, 77, 81 and 82 as amended:

a frame including a tunnel, the tunnel including at least one piece of bent sheet metal;

The Applicants submit that at least the above feature of claims 40, 45, 46, 77, 81 and 82 as amended is not taught by Yasui.

Referring to lines 18-21 of column 1 of Yasui,

there is an interest in a smaller lighter machine that can be conveniently operated and used by a single person. The advantages of such small light weight machines should be readily apparent.

It is apparent that Yasui teaches a vehicle that is lighter than a conventional snowmobile. Referring now to lines 25-35 of column 2 of Yasui,

The small snowmobile 11 is comprised of a frame assembly, indicated generally by the reference numeral 12 which may be of the welded up tubular type. The construction of the frame assembly 12 is described in more detail in copending application entitled "Frame and Body Construction For Small Snowmobile," patent application Ser. No. 163,389, [...] which is incorporated herein by reference.

Referring now to lines 15-21 of column 1 of U.S. Patent No. 4,892,164, which issued from the '389 application,

Many conventional snowmobiles are formed with a combined body frame structure that is made up of a plurality of steel stampings that are welded together. Such arrangements obviously require substantial weight and the necessity of using several different stampings and welding them together adds to the cost of the overall assembly.

Referring now to lines 34-37 of column 2 of the '164 Patent,

The snowmobile 11 is comprised of a frame assembly 12 which is of the tubular welded up type and which dirigibly supports a pair of front skis 13 at its forward end.

It is apparent from the '164 Patent that the vehicle of Yasui differs from a conventional snowmobile in that it has a frame made of welded tubular components and not steel stampings. Constructing the vehicle of Yasui with a frame made of steel stampings would add "substantial weight" and would defeat the stated purpose of Yasui to provide a "small light weight machine".

A person skilled in the art of snowmobile design would understand the term "steel stampings" to imply bent sheet metal. Steel is a metal, and stamping is a known method of bending sheet metal into a desired shape. As such, Yasui specifically teaches a snowmobile body not including bent sheet metal. Therefore, Yasui does not teach a frame including a tunnel, the tunnel including at least one piece of bent sheet metal.

This deficiency in Yasui is not remedied by Mandal.

Referring to page 19 of Mandal, Mandal addresses the problem that

[e]ach day people sit for many hours hunched over their tables in postures extremely harmful to the back.

Referring also to page 20 of Mandal,

school children [...]should be allowed to determine to a large degree what is best for them. After all, they are the ones who have to sit painfully for 4-5 h each day.

Referring also to page 25 of Mandal,

it is important to feel one's way forward to methods that the pupils can accept – in other words use for hours.

It is apparent that Mandal is directed to solving problems experienced by a person seated for several hours at a time in a static position in a stationary chair, such as in a classroom or at an office desk.

A snowmobile rider does not sit in the same position for hours at a time when riding a snowmobile. Referring to pages 50-51 of "The Complete Snowmobile Repair Handbook" by Paul Dempsey,

The snowmobile driver has a choice of three body positions. The sitting position is the one most frequently used[...] [...] In the kneeling position [...] the driver can easily shift his weight to keep the track in contact with the snow. Standing gives best control[...] [...] It is used on hills and in violent maneuvers. [...] Practice these three positions on level ground. Soon they will become automatic, and the machine will become an extension of your body.

It is apparent that a snowmobile rider frequently changes positions while operating a snowmobile, and this changing of positions allows the rider to better control the snowmobile by shifting his weight and using his legs to absorb the impact of bumpy terrain. Unlike a car driver who sits passively in a seat throughout an entire journey, a snowmobile rider actively uses his body to control his vehicle. The snowmobile is "an extension of [his] body."

Snowmobiles are designed to be actively ridden, and as such they are not designed to provide comfort for a rider sitting in the standard seating position, or any other position, for an extended period of time, because the rider is not expected to remain seated in that position for long periods. Snowmobiles are designed to enable the rider to change his position to help control the snowmobile. Therefore, a person skilled in the art of snowmobile design would

not look to Mandal to modify Yasui or any other snowmobile, because the teachings of Mandal are inapplicable to the art of snowmobile design.

In addition, the passage in Mandal relating to horseback riding would not commend itself to a person skilled in the art of snowmobile design. Although a horseback rider does not remain stationary while riding a horse, the act of riding a horse is not analogous to riding a snowmobile. A horseback rider has his feet supported by stirrups that are free to swing and as such has no defined footrest position. In addition, a horseback rider has no defined steering position because he holds reins and not a handlebar. A snowmobile rider must shift his weight from side to side and thereby shift the combined center of gravity of the snowmobile and rider, in order to steer the vehicle. While riding a horse, the rider needs only move up and down while supporting his weight on the stirrups; he is not required to shift his weight from side to side to steer the horse in the way that a snowmobile rider does, and doing so is undesirable as it may cause him to fall off the horse or unbalance the horse. Therefore, a person designing a snowmobile would not look to Mandal's description of horseback riding to modify the seating position of a snowmobile.

In addition, even if it were possible to modify the teachings of Yasui in view of Mandal, which is denied, the combination of Yasui and Mandal would still fail to teach the above feature of claims 40, 45, 46, 77, 81 and 82 as amended. Mandal makes no mention of snowmobiles, and by extension fails to teach a tunnel as claimed.

Referring now to page 5 of the rejection, the Examiner states that

it is maintained that the seating position is highly dependent upon the rider's comfort level, physical conditioning, length of ride and even skill level of the operator. Such levels and conditioning all vary from one rider to another and are not constant. A rider will specifically choose how he sits with respect to the steering device and other snowmobile components based upon the variable parameters noted above. Thus it would have been obvious at the time of the invention to one of ordinary skill in the art to have had an operator select a "standard seating position" based upon his own personal preferences with respect to the steering device, seat, and footrests so that the rider is the most comfortable he can be throughout the duration of the entire ride, thus ensuring that he is best able to control the snowmobile.

Contrary to the Examiner's assertions, the standard position assumed by the standard rider when seated on a snowmobile is not subject to personal preference or dependent on comfort level, physical conditioning, length of ride or skill level of the operator. As stated on pages 8-9 of the June 29, 2004 decision of the Board of Patent Appeals and Interferences in the present application,

[t]hese concerns are unfounded and miss the point that the language in the claims relating to the standard rider and standard position merely set forth theoretical criteria by which the claimed snowmobile is defined.

As such, the Examiner may not place a rider of arbitrary dimensions in an arbitrary position on a snowmobile and assert that this corresponds to the position of a standard rider. As determined by the Board of Patent Appeals and Interferences, the standard position of a standard rider is a definite theoretical concept and not subject to the factors relied on by the Examiner that would cause an actual rider to assume any other position while riding a snowmobile.

Therefore, at least one feature of claims 40, 45, 46, 77, 81 and 82 as amended is not taught by Yasui or Mandal, alone or in combination, which combination is denied. As such, the Examiner is requested to withdraw her rejection of claim 40 and claims 41-43 and 88 depending therefrom, claim 45, claim 46 and claims 47-49 depending therefrom, claim 77 and claims 78-80 depending therefrom, and claims 81 and 82.

In regard to Rejection of Claim 92 Under 35 USC § 103(a)

The Examiner has rejected claim 92 under 35 U.S.C. § 103(a), as being unpatentable over Bombardier, U.S. Patent No. 3,698,497.

In order to expedite the prosecution of this application, the Applicants have canceled claim 92 without prejudice, and reserve the right to present the canceled claim in a later continuation application.

As such, the Examiner's rejection of claim 92 is moot and should be withdrawn.

In regard to Rejection of Claim 85 Under 35 USC § 103(a)

The Examiner has rejected claim 85 under 35 U.S.C. § 103(a), as being unpatentable over Bombardier in view of Marier, U.S. Patent No. 5,660,245.

In order to expedite the prosecution of this application, the Applicants have canceled claim 85 without prejudice, and reserve the right to present the canceled claim in a later continuation application.

As such, the Examiner's rejection of claim 85 is moot and should be withdrawn.

In regard to Rejection of Claim 83 Under 35 USC § 103(a)

The Examiner has rejected claim 83 under 35 U.S.C. § 103(a), as being unpatentable over Yasui in view of Mandal, and further in view of Trautwein, U.S. Patent No. 3,583,507. The Applicants believe that this rejection has been addressed and overcome by the present amendment.

The Examiner's attention is directed to the following feature of claims 77, 81 and 82 as amended:

a frame including a tunnel, the tunnel including at least one piece of bent sheet metal;

As discussed above with respect to claims 40-43, 45-49, 77-82 and 88, the above feature of claim 77 as amended is not taught by Yasui, and this deficiency in Yasui is not remedied by Mandal.

The Applicants submit that this deficiency in Yasui is not remedied by Trautwein.

As discussed above with respect to claims 40-43, 45-49, 77-82 and 88, Yasui cannot be modified to include a tunnel including at least one piece of bent sheet metal without contradicting the express teaching of Yasui and defeating its stated purpose of providing a light weight vehicle. Therefore, even if Trautwein could be interpreted to teach a tunnel including at least one piece of bent sheet metal, which is not admitted, this teaching could not be applied to modify Yasui to include a tunnel including at least one piece of bent sheet metal.

Therefore, at least one feature of claims 77, 81 and 82 as amended is not taught by Yasui, Mandal or Trautwein, alone or in combination, which combination is denied. As such, the Examiner is requested to withdraw her rejection of claim 83 depending therefrom.

In regard to Rejection of Claims 6-39, 44 and 90 Under 35 USC § 103(a)

The Examiner has rejected claims 6-39, 44 and 90 under 35 U.S.C. § 103(a), as being unpatentable over Yasui in view of Applicants' Admitted Prior Art (AAPA). The Applicants believe that this rejection has been addressed and overcome by the present amendment.

In response to the Examiner's remarks, claims 6, 10, 16, 20, 26, 30, 36, 44 and 90 have been amended.

The Examiner's attention is directed to the following feature of claims 6, 10, 16, 20, 26, 30, 36, 44 and 90 as amended:

a frame including a tunnel, the tunnel including at least one piece of bent sheet metal;

As discussed above with respect to claims 40-43, 45-49, 77-82 and 88, the above feature of claims 6, 10, 16, 20, 26, 30, 36, 44 and 90 as amended is not taught by Yasui, nor can Yasui be modified to have a tunnel including bent sheet metal without defeating its stated purpose. Therefore, Yasui cannot be modified to teach a frame including a tunnel, the tunnel including at least one piece of bent sheet metal..

In particular, this deficiency in Yasui is not remedied by AAPA regarding the location of the center of gravity of a conventional snowmobile and a standard rider.

The Examiner has stated on pages 31-32 of her rejection that

the AAPA is substantially relied upon for its definition of the standard rider and that the position of the center of gravity in a conventional snowmobile corresponds to the forward track drive axle. This appears to be because the engine and skis are positioned in front of the track axle and the track and rider are positioned behind the axle. This relative positioning of major vehicle components is substantially similar in both Yasui and AAPA.

Referring to lines 8-10 of page 8 of the application as originally filed,

For conventional snowmobile 10, the rider's center of gravity 40 is behind the center of gravity of the snowmobile 44 (*i.e.*, the center of gravity of the snowmobile with the rider). The

center of gravity of the snowmobile 44 is located on or near the forward-most axle of drive track 20.

A person skilled in the art would understand the term “conventional snowmobile” to mean a snowmobile with a tunnel made of sheet metal. As discussed above with respect to claims 40-43, 45-49, 77-82 and 88, Yasui teaches that conventional snowmobiles at the time of Yasui included frames made with steel stampings. Even today, all production snowmobiles sold by major manufacturers are constructed with frames made of stamped or otherwise bent sheet metal. The snowmobile of Yasui, with its welded tubular frame, would not be considered a “conventional snowmobile”.

In addition, a person skilled in the art would understand that a statement about the location of the center of gravity of a “conventional snowmobile” does not apply to the vehicle of Yasui. As discussed above with respect to claims 40-43, 45-49, 77-82 and 88, Yasui teaches constructing a reduced weight snowmobile by removing a frame made with steel stampings, described by the ‘164 Patent as having “substantial weight”, from the rear of the vehicle and replacing it with a lighter, tubular frame. It is apparent to a person skilled in the art that removing substantial weight from the rear of a vehicle will shift the center of gravity of that vehicle forward relative to its position in a vehicle of conventional design. Thus, contrary to the Examiner’s assertion, the “relative positioning of major vehicle components” is not “substantially similar” in Yasui and AAPA, because at least one major vehicle component of a conventional snowmobile is not present in Yasui. Therefore, a person skilled in the art would readily understand that a statement about the location of the center of gravity of a conventional snowmobile would not apply to the snowmobile of Yasui.

As such, the Examiner is incorrect in her assertion on page 32 of the rejection that

it would have been obvious, if not inherent, to position the center of gravity of the Yasui vehicle proximate the forward track axle.

Therefore, AAPA cannot be combined with Yasui to teach the location of the center of gravity of Yasui, and even if the two could be combined, which is denied, their combination would not teach a tunnel including at least one piece of bent sheet metal.

Therefore, at least one feature of claims 6, 10, 16, 20, 26, 30, 36, 44 and 90 as amended is not taught by Yasui or AAPA, alone or in combination, which combination is denied. As such, the Examiner is requested to withdraw her rejection of claim 6 and claims 7-

9 depending therefrom, claim 10 and claims 11-15 depending therefrom, claim 16 and claims 17-19 depending therefrom, claim 20 and claims 21-25 depending therefrom, claim 26 and claims 27-29 depending therefrom, claim 30 and claims 31-35 depending therefrom, claim 36 and claims 37-39 depending therefrom, and claims 44 and 90.

In regard to Rejection of Claims 1-5, 84, 87 and 88 Under 35 USC § 103(a)

The Examiner has rejected claims 1-5, 84 and 87 under 35 U.S.C. § 103(a), as being unpatentable over Yasui in view of “The Complete Snowmobile Handbook” by Dempsey. The Applicants believe that this rejection has been addressed and overcome by the present amendment.

The Examiner’s attention is directed to the following feature of claims 1, 40, 84 and 87 as amended:

a frame including a tunnel, the tunnel including at least one piece of bent sheet metal;

As discussed above with respect to claims 40-43, 45-49, 77-82 and 88, the above feature of claims 1, 84 and 87 as amended is not taught by Yasui.

This deficiency in Yasui is not remedied by Dempsey.

As discussed above with respect to claims 40-43, 45-49, 77-82 and 88, Yasui cannot be modified to have a tunnel including bent sheet metal without defeating its stated purpose. Therefore, Yasui cannot be modified to teach a frame including a tunnel, the tunnel including at least one piece of bent sheet metal.

Regarding the Examiner’s use of Dempsey to teach the weight of a snowmobile, the Examiner has stated on page 16 of her rejection that

“The Complete Snowmobile Handbook” describes snowmobile ranging in weight from 280 to 1538lb. An average of these would be approximately 900.

The Examiner then proceeds to use 900 pounds as an “average” weight for a snowmobile.

Referring to page 23 of Dempsey,

Bombardier is on the show circuit with a prototype machine, the Mirage II. It features a fully enclosed cap and seats four passengers. The front seats swivel for easy egress. Amenities include an FM radio receiver, tape deck, and mobile telephone. A 1600 cc liquid-cooled engine provides the power and heat for the cab. The prototype has a 4-speed manual transmission, but an automatic is under development. The sled rides on dual 20 in. tracks with a differential lock-out. With fuel aboard, the machine weighs 1538 lb.

This teaching in Dempsey cannot be combined with the teaching of Yasui. The Mirage II was not a typical snowmobile at the time, but merely a “prototype” on the “show circuit”, and therefore not representative of the weight of a typical snowmobile. In addition, the Mirage II had a fully enclosed cab, seated four passengers and had a 1600 cc engine, among other features. The weight of the Mirage II therefore cannot be used to teach a weight for Yasui, which explicitly teaches at lines 18-20 of column 1 that

there is an interest in a smaller lighter machine that can be conveniently operated and used by a single person.

Yasui also teaches at lines 39-41 of column 2 that

A seat 14 is carried by the frame 12 rearwardly of the body portion 13 and is designed to accommodate a single rider[.]

As such, the weight of the Mirage II recited in Dempsey cannot be used to teach the weight of a snowmobile that can be combined with Yasui. In addition, the weight of the Mirage II cannot be used to establish a range of snowmobile weights that can be combined with Yasui, because the Mirage II contains many features that add considerable weight and are contrary to the teachings of Yasui.

Therefore, the Examiner’s calculation of the location of the center of gravity of the vehicle of Yasui with the rider on page 16 of the rejection is doubly flawed. First, the Examiner incorrectly situates the center of gravity of the vehicle of Yasui at the forward-most axle of Yasui; and second, the Examiner incorrectly attributes to the vehicle of Yasui a weight of 900 pounds. As such, the Examiner’s calculation of the location of the center of gravity of Yasui with a rider based on these quantities is incorrect, and as such the Examiner’s determination that the vehicle of Yasui can be modified to teach every element of claims 1-5, 84, 87 and 88 is incorrect.

Therefore, at least one feature of claims 1, 40, 84 and 87 as amended is not taught by Yasui or Dempsey, alone or in combination, which combination is denied. As such, the Examiner is requested to withdraw her rejection of claim 1 and claims 2-5 depending therefrom, claims 84 and 87, and claim 88 depending from claim 40.

In regard to Rejection of Claims 55 and 57 Under 35 USC § 103(a)

The Examiner has rejected claims 55 and 57 under 35 U.S.C. § 103(a), as being unpatentable over Marier.

In order to expedite the prosecution of this application, the Applicants have canceled claims 55 and 57 without prejudice, and reserve the right to present the canceled claims in a later continuation application.

As such, the Examiner's rejection of claims 55 and 57 is moot and should be withdrawn.

In regard to Rejection of Claim 58 Under 35 USC § 103(a)

The Examiner has rejected claim 58 under 35 U.S.C. § 103(a), as being unpatentable over Marier in view of Parks, U.S. Patent No. 5,251,948.

In order to expedite the prosecution of this application, the Applicants have canceled claim 58 without prejudice, and reserve the right to present the canceled claim in a later continuation application.

As such, the Examiner's rejection of claim 58 is moot and should be withdrawn.

In regard to Rejection of Claim 60 Under 35 USC § 103(a)

The Examiner has rejected claims 60 under 35 U.S.C. § 103(a), as being unpatentable over Christensen, U.S. Patent No. 3,734,219 in view of Hauser, U.S. Patent No. 3,578,095.

In order to expedite the prosecution of this application, the Applicants have canceled claim 60 without prejudice, and reserve the right to present the canceled claim in a later continuation application.

As such, the Examiner's rejection of claim 60 is moot and should be withdrawn.

In regard to Rejection of Claims 64-68 Under 35 USC § 103(a)

The Examiner has rejected claims 64-68 under 35 U.S.C. § 103(a), as being unpatentable over Dempsey in view of AAPA.

In order to expedite the prosecution of this application, the Applicants have canceled claims 64-68 without prejudice, and reserve the right to present the canceled claims in a later continuation application.

As such, the Examiner's rejection of claims 64-68 is moot and should be withdrawn.

In regard to Rejection of Claims 73 and 86 Under 35 USC § 103(a)

The Examiner has rejected claims 73 and 86 under 35 U.S.C. § 103(a), as being unpatentable over Japanese Patent No. 2-273681 in view of Trautwein.

In order to expedite the prosecution of this application, the Applicants have canceled claims 73 and 86 without prejudice, and reserve the right to present the canceled claims in a later continuation application.

As such, the Examiner's rejection of claims 73 and 86 is moot and should be withdrawn.

Support for Amendments

Claims 1, 6, 10, 16, 20, 26, 30, 36, 40, 44, 45, 46, 77, 81, 82, 84, 87, and 90 have been amended to recite "a frame [...]including a tunnel, the tunnel including at least one piece of bent sheet metal." This amendment is supported by the application as originally filed.

In particular, this amendment is supported by Canadian Patent Application No. 2,256,944 (the "Canadian Application") which is incorporated by reference in the present application in its entirety. Specific support for the amendment is provided in the tunnel area (27) on line 20 of page 9 of the Canadian Application, and at least Figures 11 and 12 of the Canadian Application showing an embodiment of a tunnel. A person skilled in the art of snowmobiles would readily understand that the snowmobile frames depicted in Figures 11 and 12 of the Canadian Application are made of bent sheet metal.

In view of the above remarks, the Applicants respectfully submit that all of the currently pending claims are allowable and that the entire application is in condition for allowance.

Should the Examiner believe that anything further is desirable to place the application in a better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

At the time of filing of the present response, the Office was authorized to charge the fees believed to be necessary to a credit card. In case of any under- or over-payment or should any additional fee be otherwise necessary, the Office is hereby authorized to credit or debit (as the case may be) Deposit Account number 502977.

Respectfully submitted,

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